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(71)Applicant : DAINIPPON PRINTING CO LTD

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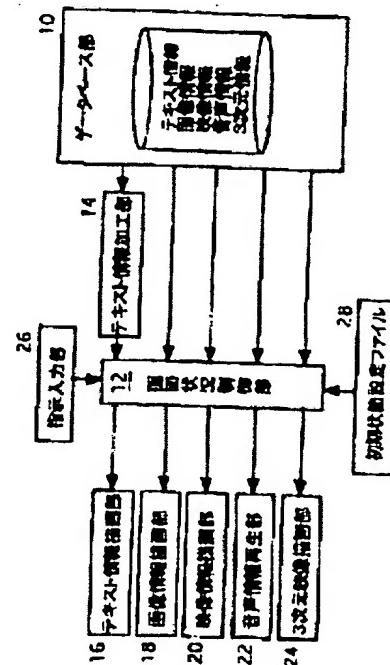
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HARA TOSHIKI

(54) DEVICE FOR DISPLAYING INFORMATION ON THREE-DIMENSIONAL MERCHANDISE AND RECORDING MEDIUM

(57)Abstract:

PROBLEM TO BE SOLVED: To display an optional state on a screen as a three-dimensional image despite a small quantity of information by instructing a desired merchandise, accessing a data base to extract the three-dimensional information on the merchandise, plotting the three-dimensional image of the merchandise according to the extracted information on the merchandise and displaying the plotted three-dimensional image.

SOLUTION: An extraction means (screen state control part) 12 inputs a material information list necessary for displaying a screen in a starting mode from an initial state setting file 28. A screen state setting part 12 extracts the necessary information from a data base part 10 and a text information processing part 14 according to the inputted material information. Each of drawing/reproducing parts 16-24 is instructed to perform a plotting operation on a screen. Thus, every screen plotting part plots an initial screen on the screen. If the text information must be processed, this information is sent to the part 12 after an arithmetic operation is carried out at the part 14. Meanwhile, the data which are inputted from the part 10 and has not to undergo any arithmetic operation are sent to the part 12 as they are.



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CLAIMS

[Claim(s)]

[Claim 1]A database with which available merchandise information and three-dimensional information which were matched with merchandise information for every goods, and which specifies three-dimensional form of goods at least are stored in directions of goods, An extraction means to have the function to extract

three-dimensional information on a directing means which has the function to direct goods to wish to have, and goods which accessed this database and were directed, A three-dimensional merchandise information display provided with a 3D scenography drawing means to have a function which draws a 3D scenography of goods based on extracted three-dimensional information, and a displaying means which has a function which displays a 3D scenography of drawn goods.

[Claim 2]A three-dimensional merchandise information display, wherein a color information, mapping information, light information, camera information, and motion information on form are included in said three-dimensional information in Claim 1.

[Claim 3]Text information concerning [on Claim 1 and] goods as said merchandise information to said database, While at least one of picture information, video information, and the voice informations is stored and said extraction means has simultaneously a function to extract merchandise information from said database, A text information drawing means to have a function which draws extracted merchandise information, A three-dimensional merchandise information display, wherein information which at least one of the voice-information reproduction means which has a picture information drawing means, a video information drawing means, and a function to reproduce was put side by side, and was drawn by each drawing means is displayed on said displaying means.

[Claim 4]A three-dimensional merchandise information display having a function in which said extraction means extracts information from said database in Claim 1 based on directions of setup information currently created beforehand.

[Claim 5]A three-dimensional merchandise information display in which said extraction means is characterized by having the function to perform control which changes three-dimensional information and is made to redraw on said 3D scenography drawing means based on three-dimensional information after change in Claim 1 based on a user's directions.

[Claim 6]A three-dimensional merchandise information display, wherein a text information processing means which has the function to perform estimated calculation of two or more goods which a price is contained and are drawn in addition to description of the feature of goods is put side by side to said text information in Claim 3.

[Claim 7]A three-dimensional merchandise information display having a function which draws text information of goods corresponding to 3D scenography information drawn, picture information, and video information in Claim 3.

[Claim 8]When two or more goods are directed in said database in Claim 1, A three-dimensional merchandise information display, wherein an exclusive operation control means which performs exclusive operation control based on exclusive operation information which exclusive operation information about goods in which commodity composition Kamigumi doubling is impossible was stored, and was extracted from a database is put side by side.

[Claim 9]A recording medium, wherein a program which makes a computer perform one of the functions according to claim 1 to 8 is stored.

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[The technical field to which invention belongs] For a three-dimensional merchandise information display especially an article introduction, or sales promotion support, this invention digitizes various merchandise

information, applies it to goods simulation systems, such as an electronic catalog which carries out a simulation on a computer, and relates to a suitable three-dimensional merchandise information display. [0002]

[Description of the Prior Art] With goods simulation systems, such as an electronic catalog used for an article introduction or sales promotion support, conventionally, the text information about goods, and the picture information of Still Picture Sub-Division which took a photograph of goods on the spot -- the same -- the video information of an animation. The information which a user searches for was extracted from this database using the merchandise information database which stored the voice information which introduces goods, it was displayed on the screen, and the sound was made to output, and the article introduction was performed.

[0003]

[Problem to be solved by the invention] However, in the above conventional electronic catalogs. When it was going to show the user the three-dimensional form about goods, the overall form in the case of having arranged combining other goods, arrangement balance, etc., a photograph of the picture information of all the patterns predicted and video information needed to be taken on the spot beforehand, they needed to be created, and it needed to store in the database.

[0004] Therefore, if it is going to cover all the situations which a user searches for about the position, the form (/for example, closed [which the lid is opening]) of goods, the combination state of two or more goods, etc. of seeing goods, A huge quantity of picture information and video information needed to be created, and also in order to save it, the memory measure of many disks etc. was needed.

[0005] Since it was impossible to manufacture all the situations which a user searches for as picture information and video information as a practical question, even if it stored as much picture information and video information as possible, there was a problem that a user could not be satisfied enough.

[0006] This invention was made so that it may solve said conventional problem, and about the goods which a user wishes to have, although there is little amount of information, it makes it SUBJECT to provide the three-dimensional merchandise information display which can be displayed on a screen as a 3D scenography of arbitrary states.

[0007]

[Means for solving problem] In a three-dimensional merchandise information display, this invention Merchandise information available to directions of goods, The database with which the three-dimensional information which was matched with merchandise information for every goods, and which specifies the three-dimensional form of goods at least is stored, An extraction means to have the function to extract the three-dimensional information on the directing means which has the function to direct the goods to wish to have, and the goods which accessed this database and were directed, Said SUBJECT is solved by having a 3D scenography drawing means to have a function which draws the 3D scenography of goods based on the extracted three-dimensional information, and the displaying means which has a function which displays the 3D scenography of the drawn goods.

[0008]. Namely, in this invention, were matched with merchandise information which can be used for directions of goods by merchandise information for every goods. When three-dimensional information which specifies form of goods at least is put in a database and a user points to them and chooses goods on equipment, Since three-dimensional information which specifies form of the product is extracted and it enabled it to draw a 3D scenography in the arbitrary state by real time based on it, A database of merchandise information can be combined with a function which draws a 3D scenography interactively (interactive), and required arbitrary goods forms can be displayed in three dimensions now on a screen with a user's directions.

[0009] Therefore, since a position, a form of goods, a combination state of two or more goods, etc. of seeing goods were drawn on that spot as a 3D scenography, it became possible to satisfy a user enough. Since it is not necessary to store huge picture information and video information in a database beforehand in order to create a 3D scenography on that spot, many storage capacities (for example, disk storage capacity) can be saved.

[0010]

[Mode for carrying out the invention] Hereafter, with reference to Drawings, an embodiment of the invention is described in detail.

[0011] Drawing 1 is a block diagram showing important section composition of a three-dimensional merchandise information display of a 1st embodiment concerning this invention.

[0012] A display device (goods simulation system) of this embodiment, It has the database section 10, the screen situational-control part 12 and the text information processing section 14, the text information

"drawing part 16, the picture information drawing part 18, the video information drawing part 20, the voice-information regenerating section 22, the 3D scenography drawing part 24, the instruction input part 26, and the initialization file 28.

[0013]If a display device of this embodiment is explained in full detail, on a disk which the above-mentioned database section 10 has. Text information about a name of goods, an introduction explanatory note, a price, size, etc., Picture information, such as pictures, such as a still picture of goods a photograph of was taken on the spot, and a menu screen used in order that a user may direct, Video information about an image which consists of an animation which is used for an article introduction, and a photograph of was taken on the spot, voice informations, such as an article introduction and back music, three-dimensional information about arbitrary goods stored, etc. are stored.

[0014]As this three-dimensional information, CAD data which specifies three-dimensional form of goods is made into the start, All the information, including a color (R, G, B), mapping information (a sticking position, a mural image), light information (a position, a direction, strength, color), camera information (a position, direction, field angle), motion information on form, including a door opening etc., etc., required in order to create a 3D scenography is stored.

[0015]Said Drawings situational-control part (extraction means) 12 reads a variety of information from a database (extracting), and performs control which gives directions to each information drawing and regenerating sections 16-24 based on the information. That is, at the time of starting, from the initialization file (setup information) 28, an initial state is read, data is read from the database section 10 based on it, and drawing of a up to [a screen] and directions of sound reproduction are performed to each information drawing and regenerating sections 16-24. After that, according to directions from the instruction input part 26 by a user, data read from the database section 10, drawing indication to various drawing and regenerating sections 16-24, directions of sound reproduction, etc. are controlled.

[0016]Prices of each goods containing a part in which said text information processing section 14 is stored in the database section 10, Based on text information, such as size, an operation which computes a total price and total size is performed, this result of an operation is sent to the text information drawing part 16 via the screen situational-control part 12, and it draws on screens (displaying means), such as a personal computer.

[0017]Said text information drawing part 16 draws the text information on screens, such as a personal computer, using text information from the screen situational-control part 12. The picture information drawing part 18 draws a picture (Still Picture Sub-Division) on screens, such as a personal computer, based on picture information for article introductions and a picture for menus from the screen situational-control part 12. The video information drawing part 20 draws an image (animation) on screens, such as a personal computer, based on video information for article introductions from the screen situational-control part 12. The voice-information regenerating section 22 performs sound reproduction based on a sound, back music, etc. for article introductions from the screen situational-control part 12.

[0018]Said 3D scenography drawing part 24 draws 3D scenography information on screens, such as a personal computer, based on the three-dimensional form of the goods described by the CAD data similarly inputted from the screen situational-control part 12, the color information corresponding to it, mapping information, light information, camera information, and motion information. In this 3D scenography drawing part 24, a 3D scenography can be drawn by using the technology indicated, for example in "application graphics (ASCII learning system ** application course)" (the Takeuchi vacancy and [OTA, Masataka and] the Takayuki Ooguchi collaboration) of ASCII Issue.

[0019]To the menu button and indicating input form which were displayed on the screen, a user inputs and said instruction input part 26 comprises input devices, such as a keyboard and a mouse. A initialization file is a file which sets up the contents (display information of a screen, information in the database to be used, etc.) performed at the time of starting.

[0020]Next, the flow of the processing performed in the three-dimensional merchandise information display (simulation system) of this embodiment is explained according to the flow chart shown in drawing 2.

[0021]First, if this system is started, said screen situational-control part 12 will input a material information list (text information, picture information, video information, a voice information, three-dimensional information) required for a screen display at the time of starting from the initialization file 28 (Step 1).

[0022]Subsequently, the screen situational-control part 12 directs drawing of a up to [a screen] to each drawing and regenerating sections 16-24, after taking out required information from the database section 10 and the text information processing section 14 based on the material information inputted at the above-mentioned step 1. As a result, in each screen drawing part, an initial screen (it mentions later) is drawn on a screen (Step 2). In that case, after an operation is carried out to text information in said text information

processing section 14 about a thing to be processed (operation etc.), the screen situational-control part 12 is passed, and the data which inputted what has an unnecessary operation from the database section 10 is passed to the screen situational-control part 12 as it is.

[0023]Next, it will be in the state waiting for input directions, and will become the input waiting from a user (Step 3). And if there is an input from a user (Step 4), the inputted contents will be passed to the screen situational-control part 12 in the instruction input part 26. As a result, in this screen situational-control part 12, any one in three processings of the following (1) – (3) is performed with the inputted directions from a user (Step 5).

[0024](1) When a user's directions are "ends", terminate a system.

(2) Direct drawing to a user's instruction content to the 3 in all dimensional image drawing part 24. In response to these directions, the 3D scenography drawing part 24 draws three-dimensional information.

(3) Perform directions of drawing and reproduction to each drawing part and a sound reproduction section after taking out material information from the database section 10 according to a user's instruction content. In each drawing parts 16, 18, 20, and 24 which received directions of this drawing, drawing of text information, picture information, video information, and three-dimensional information is performed, respectively, and a sound is reproduced in the sound reproduction section 22 which received reproductive directions (Step 6). Then, processing of the above-mentioned steps 3–6 and operation are repeated if needed.

[0025]Next, an example of a screen (displaying means) in which a picture drawn by said each drawing part and an image were displayed is given, and this embodiment is described further.

[0026]Drawing 3 is an example of an initial screen drawn at said step 2 displayed at the time of starting. Four buttons ("an article introduction sound and an image", "commodity retrieval", a "goods list picture", a "goods simulation") used in order to move to each screen currently displayed are displayed on this screen left-hand side.

[0027]The user can move this button to the next screen by what is pushed with a mouse (instruction input part 26) etc. (it clicks). Here, a case (a slash was attached and shown) where a "goods simulation" button for performing 3D scenography drawing which exists at the bottom is chosen is explained.

[0028]If a "goods simulation" button is chosen, it will move to a goods simulation screen shown in drawing 4. The contents of goods used for this simulation and a kind of background were collectively shown in drawing 5. Here, although goods are deformed and it has expressed, it can display by the same minuteness as thing.

[0029]In a goods simulation screen shown in above-mentioned drawing 4. Each button, such as a merchandise selection button, a direction button of a look, a view position button, an object rotation button, a light ON/OFF button, a goods recoloring button, a background change button, and a motion button, an information-display area, and 3D scenography display area of goods are displayed. Hereafter, each of these functions are explained in full detail.

[0030]The merchandise selection button currently displayed on the screen upper left as the "article list" is a button which chooses the option of goods and goods which performs a simulation, and is the goods in which the portion which attached the slash was chosen. In this example, the option B the option A goods 1 main part (trophy) and for this goods 1, goods 2 main part (clock), and for goods 2 is chosen. Here, the picture of goods itself can be displayed besides a text showing the trade name like drawing 4 as a button.

[0031]The estimated information about the goods as which the estimated display area at the lower left of a screen (information-display area) was chosen with the above-mentioned merchandise selection button is displayed. Based on the result calculated by the text information about the goods stored in the database section 10, and said text information processing section 14, it is displayed by drawing by the text information drawing part 16.

[0032]The goods 3D scenography display area at the upper right of a screen is an area which displays the 3D scenography of goods selected with the above-mentioned merchandise selection button. The screen situational-control part 12 reads the three-dimensional information on goods from the database section 10, and it is displayed by drawing by the 3D scenography drawing part 24 based on this. As for the first image displayed here, all three-dimensional information, including the direction, color, etc., is drawn with a default value.

[0033]A direction button of a look is used when moving direction of a camera at the time of drawing a reproduction image. Direction of a camera moves in the direction which pushed an arrow. If this button is pushed, in said screen situational-control part 12, direction information on a camera is changed and it directs to redraw in the 3D scenography drawing part 24. In this 3D scenography drawing part 24, a 3D scenography of goods is drawn based on these directions.

[0034]A view position button changes a position of a camera at the time of drawing a 3D scenography. If an upper arrow is pushed, a camera will move forward, and if an arrow down is pushed, a camera will retreat. If this button is pushed, in the screen situational-control part 12, camera position information is changed and it directs to redraw based on that information in the 3D scenography drawing part 24. In this 3D scenography drawing part 24, a 3D scenography of goods is drawn based on these directions.

[0035]An object (goods) rotation button has the function to change direction of goods at the time of drawing a 3D scenography. Goods rotate in the direction which an arrow pushed. If this button is pushed, in the screen situational-control part 12, three-dimensional form of goods is rotated and it directs to redraw in the 3D scenography drawing part 24. In this 3D scenography drawing part 24, a 3D scenography of goods is drawn based on these directions.

[0036]A light ON/OFF button is used when turning on and off a light used in order to illuminate goods, when drawing a 3D scenography. Here, since the No. 1 light and the No. 3 light which attached a slash are ON, in the picture situational-control part 12, it directs to turn on and redraw these two lights in the 3D scenography drawing part 24. In this 3D scenography drawing part 24, a 3D scenography of goods is drawn based on these directions.

[0037]A goods recoloring button is used, when drawing a 3D scenography and changing a color of goods. In this example, since "the color 3" is specified as a color of goods, goods are colored [of the color pattern No. 3]. A push on this button will direct to read a actual color information (R, G, B: there may be more than one) corresponding to the color pattern No. 3 from the database section 10, and to redraw it in that color in the 3D scenography drawing part 24 in the screen situational-control part 12. In this 3D scenography drawing part 24, a 3D scenography of goods is drawn based on these directions.

[0038]Although a goods recoloring button is displayed in a text in this example, Still Picture Sub-Division of goods which carried out color changing can be displayed here, and a method of pointing to it and choosing that picture can also be adopted. It may have the color information with which the upper part combined various colors like blue in the lower part in red depending on goods. Therefore, two or more colors can also be registered into one color pattern.

[0039]A background change button has the function to change a background at the time of drawing a 3D scenography. since "the background 2" is specified as a background in this example -- the background pattern No. 2 -- for example, a blue background is drawn. A push on this button will read three-dimensional information corresponding to the background pattern 2 from the database section 10 in said screen situational-control part 12. And in the 3D scenography drawing part 24, it redraws instead of a background pattern used now using three-dimensional information on the selected background pattern 2. In this case, three-dimensional information on goods is drawn as it is.

[0040]When a motion button draws a 3D scenography, it is a button made to generate a motion to an object. In this example, if a button is pushed, a needle of a clock (goods 2 main part) can be rotated. That is, if this button is pushed, in the screen situational-control part 12, three-dimensional information on the goods 2 (motion information) is read from the database section 10, and a redraw is directed in the 3D scenography drawing part 24 based on that motion information. In the 3D scenography drawing part 24, a motion is given to a 3D scenography by repeating a multiple-times redraw based on motion information.

[0041]Each function of a simulation system mentioned above is performed by programmed computer. That is, this computer can be easily used as the above-mentioned system by creating recording media, such as CD-ROM in which a program which realizes each above function is stored, and installing this program in a computer.

[0042]According to this embodiment explained in full detail above, since it was made to draw in real time using the CAD data extracted from the database section 10, the 3D scenography of goods, There is little merchandise information beforehand created compared with the former, and it ends, and it becomes possible [the fine level (the background of the installed place to rotate of approaching is changed) which a user moreover demands] to check goods. Therefore, the effect of ** which can reduce the manufacturing cost of (2) merchandise information that there is little disk storage capacity for storing (1) merchandise information, and it ends and that (3) users can acquire sufficient information about goods can be acquired.

[0043]Next, a 2nd embodiment concerning this invention is described. Drawing 6 is a block diagram equivalent to said drawing 1 showing the important section composition of the three-dimensional merchandise information display of this embodiment.

[0044]A display device (goods simulation system) of this embodiment, Exclusive operation information about combination of goods required for exclusive operation control is stored in the database section 10, and it is substantially [as the case of said 1st embodiment] the same except having made it carry the exclusive operation control section 30 which inputs this information and performs exclusive control to the

screen situational-control part 12.

[0045]Namely, in this embodiment, it adds to a simulation facility of a display device of said 1st embodiment, About combination composition of goods with directions from the instruction input part 26 by the exclusive operation control section 30. About composition judged that it cannot be judged whether combination is possible and cannot combine from information stored in the database section 10. It prevents from recognizing visually goods which cannot be chosen to the screen situational-control part 12, or controls preventing from choosing etc.

[0046]Drawing 7 is the flow chart equivalent to said drawing 2 which showed a flow of procedure by this embodiment.

[0047]In this embodiment, like the case of a 1st embodiment, although processed according to the procedure of Step 1 – Step 6, it is Step 5, and processing by said exclusive operation control section 30 is added, and is performed.

[0048]That is, in addition to the processing performed by said 1st embodiment, in this step 5, the screen situational-control part 12 directs an exclusive operation to the exclusive operation control section 30 according to a user's instruction content. In the exclusive operation control section 30 which received these directions, if said exclusive operation is performed and that result is returned to the screen situational-control part 12, this screen situational-control part 12 will direct drawing to the 3D scenography drawing part 24 according to a user's instruction content. Three-dimensional information is drawn in the 3D scenography drawing part 24 which received this. The result of exclusive control processing will be reflected in the 3D scenography of the goods which drew in this way.

[0049]Subsequently, in the following step 6, like said 1st embodiment, in each drawing parts 16, 18, 20, and 24, although audio reproduction will be performed in the voice-information regenerating section 22, drawing of text information, picture information, video information, and 3D scenography information, In these each drawing part, the information in which the result by which exclusive control processing was performed was reflected will be drawn.

[0050]The contents of goods and the kind of background by which drawing 9 is equivalent to said drawing 5 in the goods simulation screen where drawing 8 is equivalent to said drawing 4 are shown. According to this embodiment, each is the same as that of said 1st embodiment, the ribbon attached to it is different colors as shown in drawing 9, and the article bodies 1 and 2 are the options A and B for goods 1, and cannot choose both. There are the options F and D with which a form is different also as a medal attached on a ribbon, and this cannot choose only either, either.

[0051]Therefore, although goods 1 main part, goods 1 option A and goods 2 main part, and the goods 2 option B are chosen as an upper left merchandise selection button like said 1st embodiment in a screen of said drawing 8, in one product, the options E and G of the body and its function are the displays that it cannot choose in a slash part for reverse. That is, it is for the ability to have not chosen the option E by exclusive control since the option A of the same kind is already chosen and the option F of the same kind is already chosen as for the option G. It can also delete now from a list besides displaying on a screen as exclusive control, so that it can identify in this way.

[0052]As mentioned above, according to this embodiment, in addition to an effect of said 1st embodiment, still more exact merchandise information can be given to a user now by performing exclusive operation control.

[0053]As mentioned above, although this invention was explained concretely, this invention is not restricted to what was shown in said embodiment, and can be variously changed in the range which does not deviate from the summary.

[0054]For example, although the database section is installed into the same system with each drawing part and a regenerating section, it is not limited to this but may be made to build a database section on a network in said embodiment. In this case, when updating merchandise information, it can manage now in a unified manner, and there is an advantage that the newest information can always be accessed.

[0055]At said embodiment, although the trophy and the clock were shown as goods, it is not limited to this and arbitrary things cannot be overemphasized.

[0056]

[Effect of the Invention]According to this invention, the goods which a user wishes to have can be displayed on a screen by making arbitrary states into a 3D scenography in spite of the small amount of information as explained above.

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DESCRIPTION OF DRAWINGS**[Brief Description of the Drawings]**

[Drawing 1]The block diagram showing the important section composition of the display device of a 1st embodiment concerning this invention

[Drawing 2]The flow chart which shows the procedure in a 1st embodiment

[Drawing 3]The explanatory view showing the image of the initial screen at the time of starting in this embodiment

[Drawing 4]The explanatory view showing the image of the simulation screen by this embodiment

[Drawing 5]The explanatory view showing the contents of goods used for a simulation, and a background

[Drawing 6]The block diagram showing the important section composition of the display device of a 2nd embodiment concerning this invention

[Drawing 7]The flow chart which shows the procedure in a 2nd embodiment

[Drawing 8]The explanatory view showing the image of the simulation screen by a 2nd embodiment

[Drawing 9]The explanatory view showing the contents of goods used for the simulation of a 2nd embodiment, and a background

[Explanations of letters or numerals]

10 -- Database section

12 -- Screen situational-control part

14 -- Text information processing section

16 -- Text information drawing part

18 -- Picture information drawing part

20 -- Video information drawing part

22 -- Voice-information drawing part

24 -- Three-dimensional information drawing part

26 -- Instruction input part

28 -- Initialization file

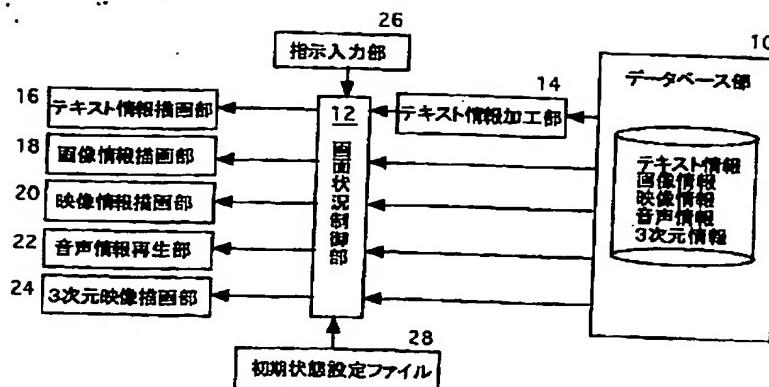
30 -- Exclusive operation control section

[Translation done.]*** NOTICES ***

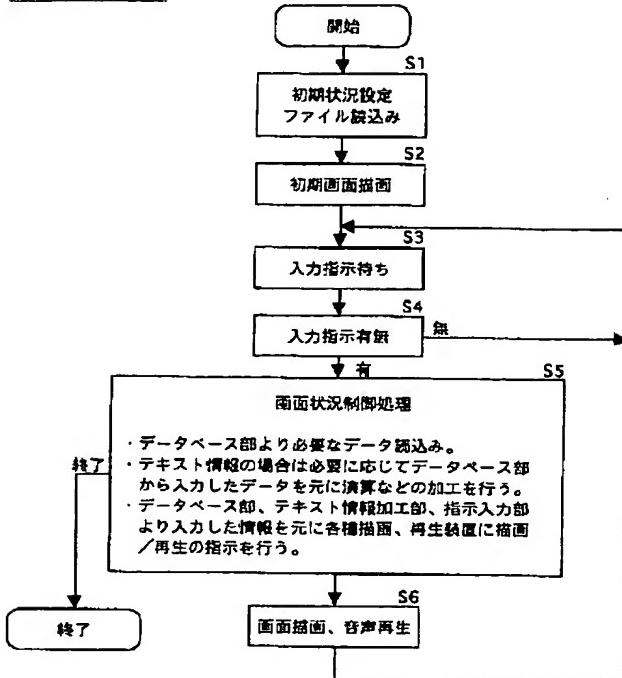
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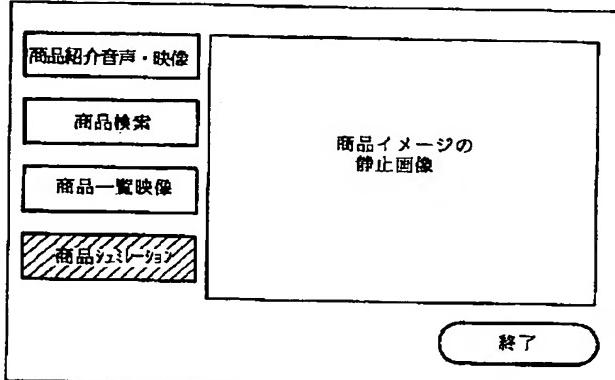
DRAWINGS**[Drawing 1]**



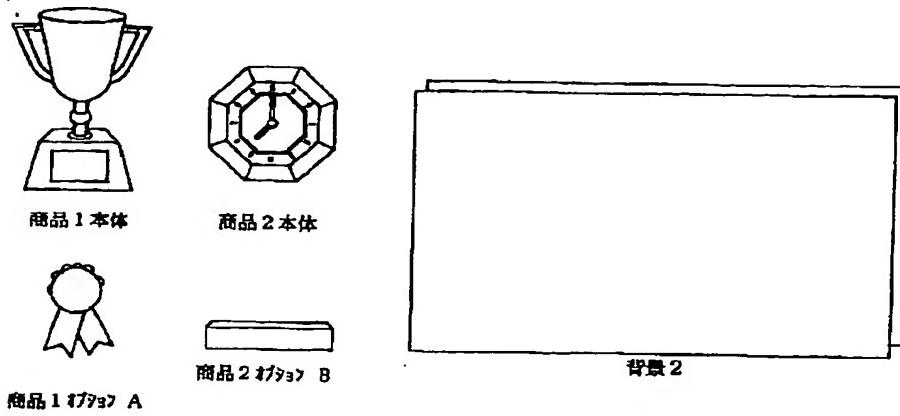
[Drawing 2]



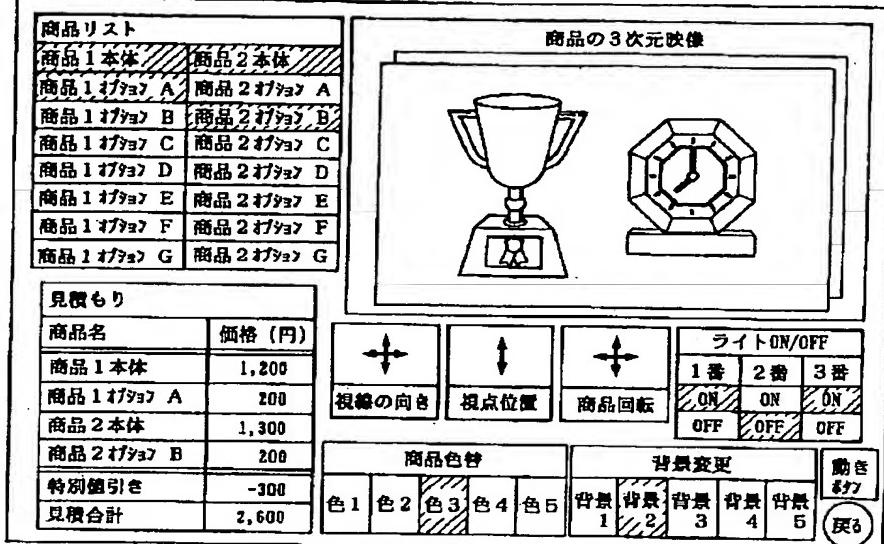
[Drawing 3]



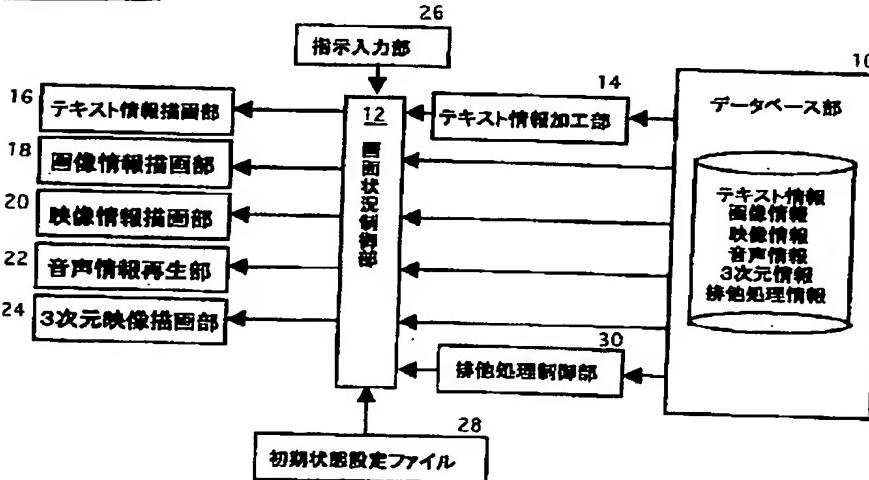
[Drawing 5]



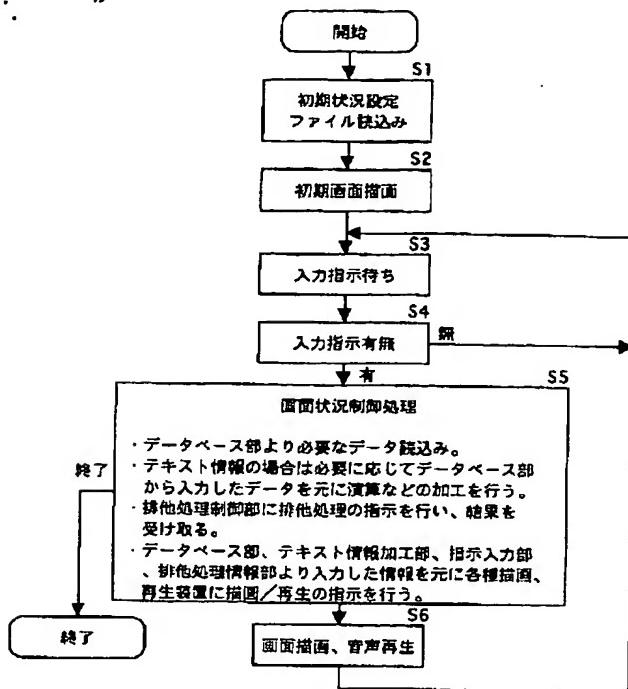
[Drawing 4]



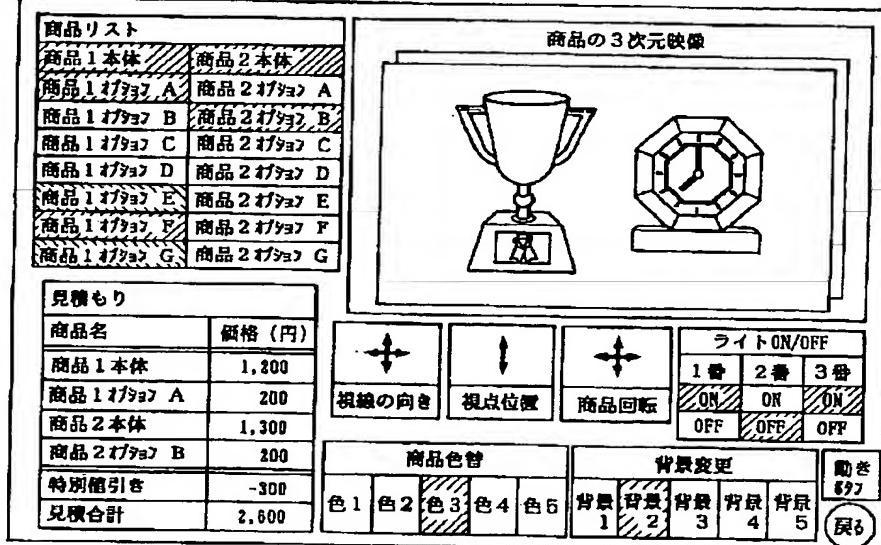
[Drawing 6]



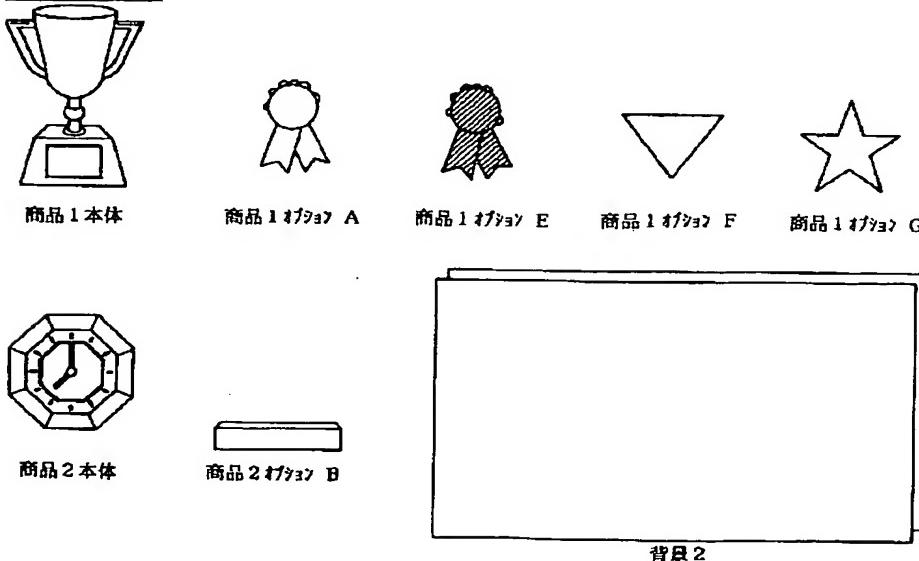
[Drawing 7]



[Drawing 8]



[Drawing 9]



[Translation done.]

と、商品毎に商品情報に對応付けられた、少なくとも商品の3次元形狀を規定する3次元情報とか格納されているデータベースと、希望する商品を指示する機能を有する指示手段と、該データベースにアクセスして指示された商品の3次元情報を抽出する機能を有する抽出手段と、抽出された3次元情報を基づいて商品の3次元映像を描画する表示手段と、描画された商品の3次元映像を表示する機能を有する表示手段とを備えていることにより、前記課題を解決したものである。

状を規定するCADデータを始めとして、色(R, G, B)、マッピング情報(貼付位置、貼付画像)、ライ情報(位置、方向、強さ、色)、カメラ情報(位置、「引き、画角」)、形状の動き情報(脚が開く等)等、3次元映像を作成するために必要な全ての情報が格納されている。

【0015】前記画面状況制御部(抽出手段)12は、データベースより各種情報を読み込み(抽出し)、その情報に基づき各情報面を画面部(再生部)16～24に指示を与える。即ち、起動時には、初期状態設定ファシリティを行なう。

置（シミュレーションシステム）において実行される処理の流れを、図2に示したフローチャートに従って説明する。

【0021】まず、本システムを立ち上げると、前記画面状況制御部12が初期状態設定ファイル2より、立ち上げ時の画面表示に必要な素材情報リスト（テキスト情報、画像情報、映像情報、音声情報、3次元情報）を入力する（ステップ1）。

【0022】次いで、画面状況制御部12は、上記ステップ1で入力した素材情報を基にデータベース部10及

面に移動することができる。ここで、一番下にある「次元映像機能」を行ったための「商品ショミュレーション」がタンを選択した（斜線を付して示した）場合について説明する。

【0028】「商品ショミュレーション」ボタンを選択すると、図4に示す商品ショミュレーション画面に移動する。図5には、今回のショミュレーションに使用される商品内容と、背景の種類と併せて示した。ここでは、商品をフルメルとして表わしているが、実物と同様の構成で表示することができる。

ヒトナヘスド情報加工部1.4より、必要な情報を取り出し後、各端面・再生部1.6～2.4に画面への描画を指示する。その結果、各画面端面部では画面上に初期画面(後述する)の端面を行く(ステップ2)。その後際、キスト情報を以て(添付等)が必要なものに関しては、前記ディスクストレージ加工部1.4において演算が行われた後に画面状況制御部1.2に渡され、演算が不要なものはデータベース部1.0より入力したデータがそのまま画面状況制御部1.2に渡される。

【0023】次に、人力指示待ち状態となり、利用者がかちの人力待ちとなる(ステップ3)。そして、利用者が

1000291 工業記録4号に示した商品名「ミュレーシヨン」は、商品選択ボタン、複数の向きボタン、横位置ボタン、押下ON/OFFボタン、物体回転ボタン、腰駆動変換ボタン、動きボタン等の各ボタンには、商品色色替ボタン、商品選択ボタン、腰駆動表示エリア、商品の3次元映像表示エリアが表示される。以下、これらの各機能について詳述する。

【0030】画面左上に「商品リスト」と表示してある商品選択ボタンは、ミニュレーションを行う商品及び商品のオプションを選択するボタンであり、針盤を付した部分が選択された商品である。この例では、商品1本体(優勝カラブ)、この商品1用のオプションA、商品2

【0024】(1) 利用者の指示が「終了」の場合は、システムを終了させる。

付録に示している図面9-1アドバイス(音響及び前部アーチ)と同様に、アドバイス(音響)部10から画面が表示されるところにより表示エリアは、
ストリーム加工部14で演算された結果を基に、テキスト情報画面16により描画されるところにより表示エリアは、
音響画面部24により描画されるところにより表示エリアは、
上記商品選択ボタンで選択された商品の3次元映像を表示するところにより表示エリアである。データベース部10から画面が表示されるところにより表示エリアである。データベース部10から画面が表示されるところにより表示エリアである。
制御部112が商品の3次元情報を読み込み、これを基に
3次元映像画面部24により描画することにより表示される。
ここに表示される最初の映像は、その向きや色など
の3次元情報は全てデフォルト値で描画されるようにな
っている。

(2) やはり、この目的は日本語に日本語で書かれています。これは、音声再生部に対する指示が、音声再生部の指示と重複するためです。

4に対し、機能部 2.4 は、この指示を受けて 3 次元映像機能部 2.4 に指示を行います。この指示を受けた後、各端画面部 1.6、1.8、2.0、2.4 では、テキスト情報、報、画像情報、映像情報、3 次元音情報の描画をそれぞれ行い、再生の指示を受けた音声再生部 2.2 では音声の再生を行います (ステップ 6)。その後、必要に応じて上記スティップ 3～6 の処理、動作を繰り返す。

[003 3] 枝葉の向きを移動する際に使用する。矢印を押すと、枝葉が移動する。このボタンを押すと、前方向にカメラの向きが移動する。このボタンを押すと、前画面状況制御部1では、カメラの向き情報を更新する。このボタンを押すと、左矢印を端面に向け、再描画することを3次元映像端面部2.4では、この指示に基づいて、商品の3次元映像を端面に描画する。

[003 4] 締点位置ボタンは、3次元映像を端面にする際のカメラの位置を変更する。矢印を押すとカメラが後退する。このボタンを押すと、前方向に進み、下矢印を押すとカメラが後退する。このボタンを押すと、画面状況制御部1.2では、カメラ位置情報を更新する。このボタンを押すと、画面状況制御部1.2では、カメラ位置情報を更新する。

【0025】次に、本実用新型について、前記各画面部により描画された画像や映像が表示された画面（表示手段）の具体例を挙げて更に説明する。

（1）0026 実際、起動時に表示される前記ステップ2で描画された初期画面の例である。この画面左側には、表示されている各画面に移動するための使用する4つのボタン（「商品紹介音声・映像」、「商品検索」、「商品一覧画像」、「商品ミュレーション」）が表示される。

【0027】利用者は、Cのボタンをマウス等（指示入力部26）で押す（クリックする）ことにより、次の画面

を変更し、その情報を基に再描画することを3次元映像描画部24に指示する。この3次元映像描画部24では、商品2の3次元映像(動き情報)をデータベース部1より読み込み、その動き情報を基に3次元映像描画部24に再描画を指示する。3次元映像描画部24では、動き情報を基に再描画を指示する。

[0035] 物体(商品)回転ボタンは、3次元映像を描画する際の商品の向きを変更する機能を有する。矢印の押した方向で商品が回転する。このボタンを押すと、画面状況制御部12では商品の3次元形状を回転させ、再描画することを3次元映像描画部24に指示する。この3次元映像描画部24では、この指示に基づいて、商品の3次元映像を描画する。

[0036] ライトON/OFFボタンは、3次元映像を描画する際に商品を照らすために用いるライトのON/OFFを行うときに使用する。ここでは、鏡像を付した1番ライトと3番ライトがONであるため、画像状況制御部12ではこの2つのライトをONで再描画することを3次元映像描画部24に指示する。この3次元映像描画部24では、この指示に基づいて、商品の3次元映像を描画する。

[0037] 商品色替ボタンは、3次元映像を描画する際に商品の色を変更するときに使用する。この例では、商品の色として「色3」が指定されているので、色バーン3番の色が商品に付けられる。このボタンを押すと、画面状況制御部12では、色バーン3番に対応する実際の色情報(R, G, B: 相数ある場合もある)を、データベース部10より読み込み、その色で再描画することを3次元映像描画部24に指示する。この3次元映像描画部24では、この指示に基づいて、商品の3次元映像を描画する。

[0038] なお、この例では商品色替ボタンをテキストで表示しているが、色替えした商品の静止画をここに表示し、その画像を指示して選択する方法を採用するともできる。又、商品によっては、上部が赤で下部が青等のようないろいろな色を組み合わせた色情報をもつている場合がある。そのため、1つの色バーンの中に複数の色を置換しておくこともできる。

[0039] 背景更換ボタンは、3次元映像を描画する際の背景を変更する機能を有しているので背景バーン2番の、例えば青色の背景が描画される。このボタンを押すと、前記画面状況制御部12では、背景バーン2番の3次元映像をデータベース部10より読み込みます。そして、3次元映像描画部24では、現在使用している背景バーンの代わりに、選択した背景バーン2の3次元情報を使い、再描画を行う。この場合、商品の3次元情報をそのまま描画する。

[0040] 動きボタンは、3次元映像を描画する際に、物体に対して動きを発生させるボタンである。この例では、ボタンを押すと時計(商品2本体)の針を回転させることができる。即ち、このボタンを押すと、画面

状況制御部12では、商品2の3次元映像(動き情報)をデータベース部10より読み込み、その動き情報を基に3次元映像描画部24に再描画を指示する。3次元映像描画部24では、動き情報を基に複数回再描画を繰り返すことにより、3次元映像に動きを与える。

[0041] 上述したシステムの各機能は、プログラムされたコンピュータによって実行されるようになっている。即ち、以下の各機能を実現するプログラムが格納されているCD-ROM等の記録媒体を作成し、このプログラムをコンピュータにインストールされると同時に、該コンピュータを上記システムとして容易に利用することができる。

[0042] 以上詳述した本実施形態によれば、商品の3次元映像を、データベース部10から抽出したCADデータを用いてリアルタイムに描画するようになして、従来に比べて予め作成しておく商品情報が少なくて済む、なお利用者の希望する細かなレベル(近付いてみると、回転してみると、設置した場所の背景を変えてみると等)まで商品を確認することが可能となる。そのため、(1)商品情報を格納するためのディスク容量が少なくて済む、(2)商品情報の製作コストが削減でき、(3)利用者が商品に関して十分な情報を得ることができ、等の効果を得ることができます。

[0043] 次に、本発明に係る第2実施形態について説明する。図6は、本実施形態の3次元商品情報表示装置の要部構成を示す、前記図1に相当するロック図である。

[0044] 本実施形態の表示装置(商品シミュレーションシステム)は、データベース部10に掛けて処理制御部30に必要な、商品の組合せに関する掛けて処理情報を構成する。と共に、この情報を入力して画面状況制御部12に対する掛けて処理を行なう掛けて処理制御部30を搭載するようにしており、前記第1実施形態の場合と実質的に同じである。

[0045] 即ち、本実施形態では、前記第1実施形態の表示装置のシミュレーション機能に加えて、掛け処理制御部30が選択されているため、掛け処理としては、商品の組合せによっては、既に既存のオプションFが選択されているため、オプションGも既に既存のオプションFが選択されているため、掛け処理により選択できないようにしてあるためである。掛け処理としては、このようにしてあるためである。掛け処理により、商品から削除することもできるようになっている。

[0046] 図7は、本実施形態による処理手順の流れを示した。前記図2に相当するフローチャートである。

形態で実行した処理に加えて、画面状況制御部12は、利用者の指示内容に合わせて掛け処理制御部30に対し掛け処理の指示を行なう。この指示を受いた掛け処理制御部30では、前記掛け処理を実行し、その結果を画面状況制御部12に返すと、この画面状況制御部12は、利用者の指示内容に合わせて、3次元映像描画部24にに対して描画の指示を行なう。これを受けた3次元映像描画部24では、商品として機能力アップと臨時計を示したが、これに限定されず、任意である。

[0047] 又、前記実施形態では、商品として機能力アップと臨時計を示したが、これに限定されず、任意である。

[0048] 例えば、前記第1実施形態の場合は、ステップ1～ステップ6の手順に従って処理を行うが、ステップ5で、前記掛け処理制御部30に追加して行なう。

[0049] 一方で、前記実施形態においては、第1実施形態の場合は、商品を押すと時計(商品2本体)の針を回転させることによって、商品が希望する商品として画面に表示することができる。

[0050] 本発明に係る第1実施形態の表示装置の要部構成を示すロック図

[0051] 本発明に係る第1実施形態における実施形態の表示装置の要部構成を示すロック図

[0052] 第1実施形態における実施形態の表示装置の要部構成を示す説明図

[0053] 第2実施形態における実施形態の表示装置の要部構成を示す説明図

[0054] 例えば、前記実施形態では、データベース

[0055] 又、前記実施形態では、商品として機能力アップと臨時計を示したが、これに限定されず、任意である。

[0056] 「発明の効果」以上説明したことおり、本発明によれば、利用者が希望する商品について、少ない情報量でも待ち、任意の状態を3次元映像として画面上に表示することができる。

[0057] 「画面の簡単な説明」

[0058] [図1] 本発明に係る第1実施形態の表示装置の要部構成を示すロック図

[0059] [図2] 第1実施形態における実施形態の表示装置の要部構成を示す説明図

[0060] [図3] 本実施形態における起動時の初期画面のイメージを示す説明図

[0061] [図4] 本実施形態によるシミュレーション画面のイメージを示す説明図

[0062] [図5] シミュレーションに使用する商品内容と背景を示す説明図

[0063] [図6] 本発明に係る第2実施形態の表示装置の要部構成を示すロック図

[0064] 「発明の効果」以上説明したことおり、本発明によれば、利用者が希望する商品について、少ない情報量でも待ち、任意の状態を3次元映像として画面上に表示することができる。

形態で実行した処理に加えて、画面状況制御部12は、利用者の指示内容に同じシステム中に設置してあるが、これに限られず、データベース部をネットワーク上に構築するようにしてもよい。この場合、商品情報を更新する際に、一元管理を行うことができるようになり、常に最新の情報にアクセスすることができる。

「発明の効果」以上説明したことおり、本発明によれば、利用者が希望する商品について、少ない情報量でも待ち、任意の状態を3次元映像として画面上に表示することができる。

「画面の簡単な説明」

【図1】本発明に係る第1実施形態の表示装置の要部構成を示すロック図

【図2】第1実施形態における実施形態の表示装置の要部構成を示す説明図

【図3】本実施形態における起動時の初期画面のイメージを示す説明図

【図4】本実施形態によるシミュレーション画面のイメージを示す説明図

【図5】シミュレーションに使用する商品内容と背景を示す説明図

【図6】本発明に係る第2実施形態の表示装置の要部構成を示すロック図

【図7】第2実施形態における実施形態の表示装置の要部構成を示す説明図

【図8】第2実施形態によるシミュレーション画面のイメージを示す説明図

【図9】第2実施形態のシミュレーション画面のイメージを示す説明図

形態で実行した処理に加えて、画面状況制御部12は、利用者の指示内容に同じシステム中に設置してあるが、これに限られず、データベース部をネットワーク上に構築するようにしてもよい。この場合、商品情報を更新する際に、一元管理を行うことができるようになり、常に最新の情報にアクセスすることができる。

「発明の効果」以上説明したことおり、本発明によれば、利用者が希望する商品について、少ない情報量でも待ち、任意の状態を3次元映像として画面上に表示することができる。

「画面の簡単な説明」

【図1】本発明に係る第1実施形態の表示装置の要部構成を示すロック図

【図2】第1実施形態における実施形態の表示装置の要部構成を示す説明図

【図3】本実施形態における起動時の初期画面のイメージを示す説明図

【図4】本実施形態によるシミュレーション画面のイメージを示す説明図

【図5】シミュレーションに使用する商品内容と背景を示す説明図

【図6】本発明に係る第2実施形態の表示装置の要部構成を示すロック図

【図7】第2実施形態における実施形態の表示装置の要部構成を示す説明図

【図8】第2実施形態によるシミュレーション画面のイメージを示す説明図

【図9】第2実施形態のシミュレーション画面のイメージを示す説明図

形態で実行した処理に加えて、画面状況制御部12は、利用者の指示内容に同じシステム中に設置してあるが、これに限られず、データベース部をネットワーク上に構築するようにしてもよい。この場合、商品情報を更新する際に、一元管理を行うことができるようになり、常に最新の情報にアクセスすることができる。

「発明の効果」以上説明したことおり、本発明によれば、利用者が希望する商品について、少ない情報量でも待ち、任意の状態を3次元映像として画面上に表示することができる。

「画面の簡単な説明」

【図1】本発明に係る第1実施形態の表示装置の要部構成を示すロック図

【図2】第1実施形態における実施形態の表示装置の要部構成を示す説明図

【図3】本実施形態における起動時の初期画面のイメージを示す説明図

【図4】本実施形態によるシミュレーション画面のイメージを示す説明図

【図5】シミュレーションに使用する商品内容と背景を示す説明図

【図6】本発明に係る第2実施形態の表示装置の要部構成を示すロック図

【図7】第2実施形態における実施形態の表示装置の要部構成を示す説明図

【図8】第2実施形態によるシミュレーション画面のイメージを示す説明図

【図9】第2実施形態のシミュレーション画面のイメージを示す説明図

形態で実行した処理に加えて、画面状況制御部12は、利用者の指示内容に同じシステム中に設置してあるが、これに限られず、データベース部をネットワーク上に構築するようにしてもよい。この場合、商品情報を更新する際に、一元管理を行うことができるようになり、常に最新の情報にアクセスすることができる。

「発明の効果」以上説明したことおり、本発明によれば、利用者が希望する商品について、少ない情報量でも待ち、任意の状態を3次元映像として画面上に表示することができる。

「画面の簡単な説明」

【図1】本発明に係る第1実施形態の表示装置の要部構成を示すロック図

【図2】第1実施形態における実施形態の表示装置の要部構成を示す説明図

【図3】本実施形態における起動時の初期画面のイメージを示す説明図

【図4】本実施形態によるシミュレーション画面のイメージを示す説明図

【図5】シミュレーションに使用する商品内容と背景を示す説明図

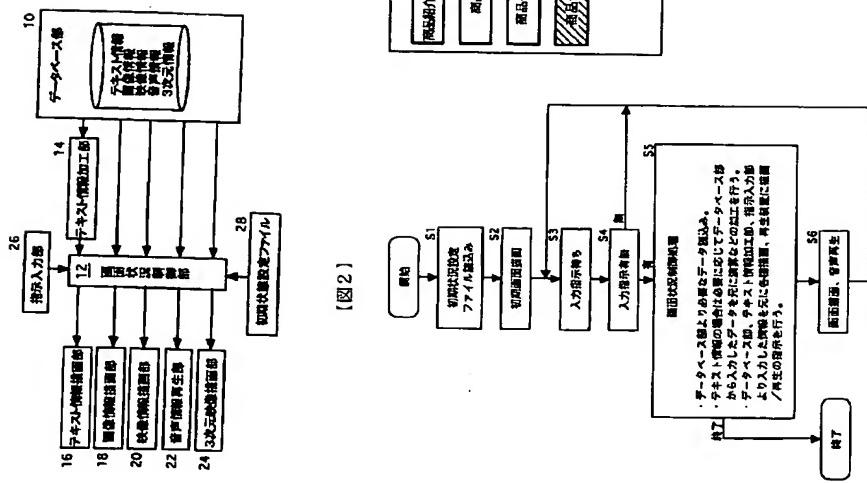
【図6】本発明に係る第2実施形態の表示装置の要部構成を示すロック図

【図7】第2実施形態における実施形態の表示装置の要部構成を示す説明図

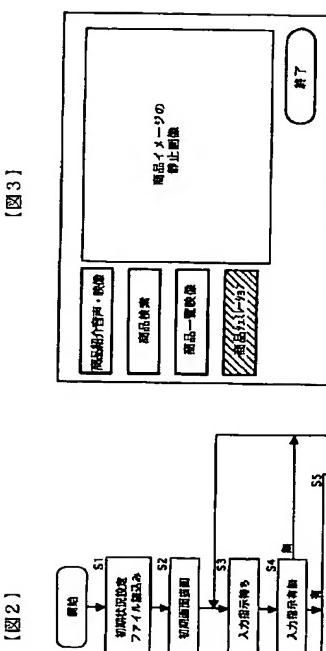
【図8】第2実施形態によるシミュレーション画面のイメージを示す説明図

【図9】第2実施形態のシミュレーション画面のイメージを示す説明図

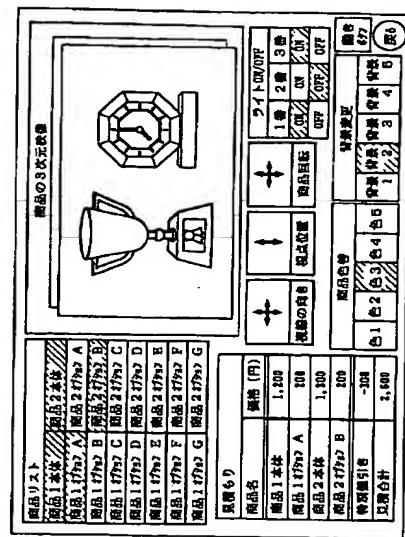
[図1]



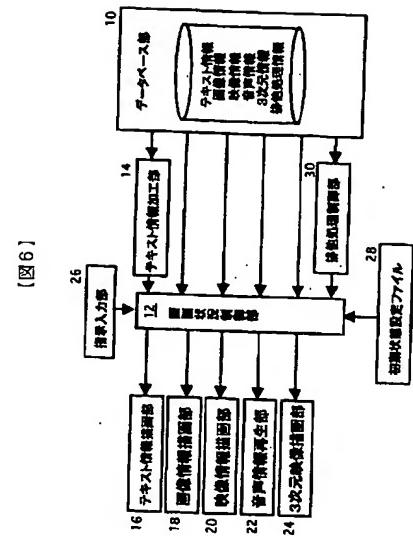
[図2]



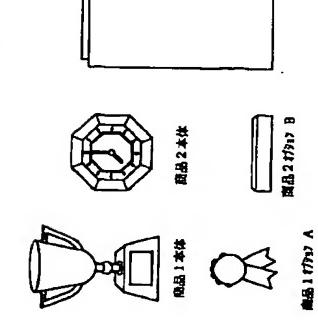
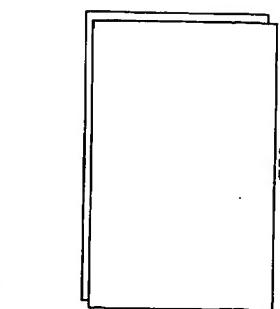
[図3]



[図4]

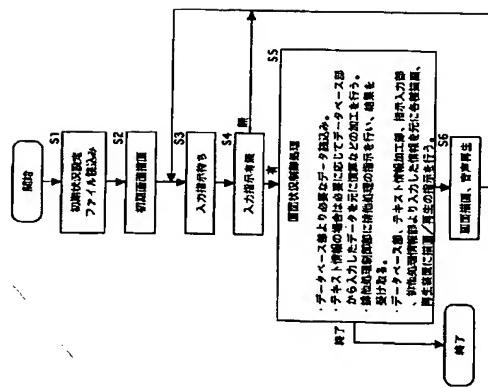


[図5]

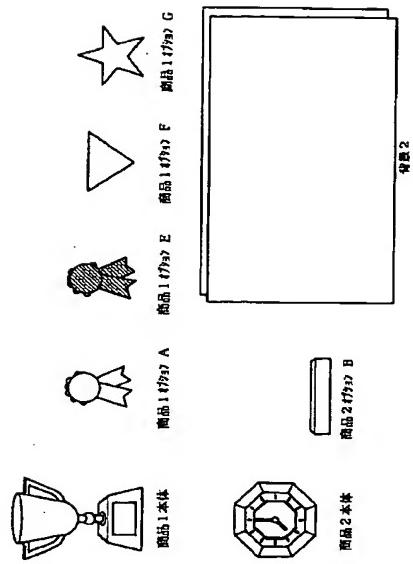


[図6]

[図7]



[図9]



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フロントページの構成

(S1) Init.C1

識別記号

F I
G 0 6 F
15/4033 1 0 B
3 8 0 Z

[図8]

